

REMARKS

Reconsideration of the present application is respectfully requested. Claims 1-34 were originally presented. Claims 21-34 have been withdrawn as being drawn to a non-elected invention. Thus, claims 1-20 are presently pending, with claim 1 being in independent form.

In the Office Action mailed June 13, 2006, the Examiner rejects independent claim 1 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,453,254 to Lefers et al. (hereinafter Lefers) in view of U.S. Patent No. 5,914,292 to Khare et al. (hereinafter Khare). For the reasons given below, Applicants submit that independent claim 1 is not obvious over the prior art, including Lefers and Khare.

In order to establish a *prima facie* case of obviousness based on a combination of prior art references, an examiner must demonstrate that (1) the references teach or suggest all the claim limitations, (2) the references, coupled with the knowledge generally available in the art at the time of the invention, contain some suggestion or motivation to combine the references, and (3) the proposed combination would have had a reasonable expectation of success, determined from the vantage point of a skilled artisan at the time the invention was made. (MPEP § 2142).

In the Office Action, the Examiner states that Lefers fails to disclose a gaseous feed containing a sulfur-containing hydrocarbon, nor does Lefers disclose transferring sulfur from the hydrocarbon to the fluidized sorbent particles. (Office Action, p. 3, lines 20-22). The Examiner states that it would have been obvious to modify the process of Lefers to include circulating a sorbent with a stream containing sulfur to remove sulfur from the stream, as disclosed by Khare. (Office Action, p. 4, lines 5-8). However, Applicants submit that the modification of Lefers with Khare fails to teach or suggest all of the claim limitations recited in independent claim 1.

Step (c) of independent claim 1 recites the limitation of “forming a fluidized bed of said sorbent particles in said reaction zone.” In the Office Action, the Examiner seems to suggest that Lefers’ disclosure of a “floating bed” teaches or suggests the formation of a fluidized bed. (Office Action, p. 3, line 17). However, as Lefers makes abundantly clear, a “floating bed” is not the same as a fluidized bed, and thus Lefers does not teach or suggest the use of a fluidized bed in connection with its invention.

Lefers states that “[w]hen the floating bed is compared with a fluidized bed of solid particles, the following differences may be noted,” and then goes on to list several differences

between fluidized beds and “floating beds.” (Lefers, col. 2, lines 14-15). Some of the differences noted include: 1) the particles used in a “floating bed” are generally larger in size than those used in a fluidized bed, 2) a greater variation in gas output may be used in a “floating bed” than in a fluidized bed, 3) a “floating bed” has little tendency to form gas bubbles having a disturbing effect, and 4) a “floating bed” has little tendency of “channeling” in the bed. (Lefers, col. 2, lines 16-25, 40-52). Additionally, Lefers goes on to state that “[t]he most important difference, however, is that, contrary to the case of a fluidized bed, the distribution of solid particles about the resulting bed is non-homogeneous in the case of a floating bed, based upon the succession of dense and thin phases. Moreover, the average particle concentration in the dense phase is lower in the compartments at the upper end thereof, whereas the dense phase layers in the floating bed, when viewed from the bottom upwards, are gradually becoming thicker (the dense phase first appears in the corners and along the edges of a grid and will thereupon fill gradually the more centrally located portions of the grids until at the upper end of the floating bed the whole surface of a grid has been covered with a dense phase).” (Lefers, col. 2, lines 25-39). According to these statements, it is clear that Lefers fails to teach or suggest “forming a fluidized bed of said sorbent particles in said reaction zone,” as is recited in independent claim 1.

Furthermore, Applicants submit that it would not be obvious to modify the process of Lefers to include the formation of a fluidized bed, as recited in independent claim 1. As stated above, in order to establish a *prima facie* case of obviousness, *inter alia*, the references, coupled with the knowledge generally available in the art at the time of the invention, must contain some suggestion or motivation to combine the references. (MPEP § 2142). Applicants submit that there would be no motivation to modify Lefers to include the formation of a fluidized bed in its process.

MPEP § 2143.01 states that “[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. (citing *In re Ratti*, 270 F.2d 810 (CCPA 1959)). Furthermore, there is no motivation to modify a reference if the “suggested combination of references would require . . . a change in the basic principle under which the [primary reference] construction was designed to operate.” (MPEP § 2143.01 (second alteration in original)).

From the previous discussion, it is clear that the “basic principle” under which Lefers was designed to operate is the use of a “floating bed” rather than the use of a fluidized bed. Accordingly, any modification to include the use of a fluidized bed in Lefers would “require . . . a change in the basic principle” under which Lefers was designed to operate. (MPEP § 2143.01). Thus, Applicants submit that there would be no motivation to modify Lefers to include the formation of a fluidized bed as recited in independent claim 1.

For the foregoing reasons, Applicants respectfully submit that no *prima facie* case of obviousness has been established. Thus, Applicants respectfully request the rejection of independent claim 1 as being obvious over Lefers in view of Khare be withdrawn.

Accordingly, Applicants submit that independent claim 1 should now be in condition for allowance. Furthermore, while claims 2-20, which depend from independent claim 1, recite additional patentable features, these claims should also be in condition for allowance because they depend from a patentable independent claim.

In light of the foregoing, Applicants submit that the present application should now be in condition for allowance and such allowance is respectfully requested. Should the Examiner have any questions, please contact the undersigned at (800) 445-3460.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 19-0522.

Respectfully submitted,

HOVEY WILLIAMS LLP

By:



Kameron D. Kelly, Reg. No. 44,181
2405 Grand Boulevard, Suite 400
Kansas City, Missouri 64108
(816) 474-9050
ATTORNEYS FOR APPLICANTS

CORRESPONDENCE ADDRESS:
ConocoPhillips Company - I.P. Legal
P.O. Box 2443
Bartlesville, OK 74005